

ABSTRACT

1 A highly accurate, fully compensated, high spatial resolution, wave propagation
2 system for measuring dielectric constant and resistivity of fluids or solids in a cylindrical
3 enclosure and method for measuring well core characteristics in-situ or in a laboratory.
4 One embodiment of the invention relies on waves propagated from transmitters above
5 and below two spaced receivers which transmit and receive electromagnetic waves via
6 slots on the inner periphery of a cylinder structure. The data is then processed with a
7 CPU either down hole for later retrieval or on the surface for real-time monitoring.